REMARKS

Claims 75-80

These claims define a product wherein the hydraulic inorganic powder is "unhardened and dry", e.g., dry cement mix. Because the hydraulic powder component has not been hydrated, and thereby set and hardened, the composite material is flexible. Accordingly, the claimed product has what is described in applicants' specification as good "draping & handling" (page 20, line 4). At page 23, lines 8-14 it is described as "so light in weight and excellent in drape that workability related with installment of crosswise reinforcing rods is markedly improved..." The terms "drape" and "draping" refer to its flexibility which allows it to "be molded to any form before it hardens and thus the hardened product obtained therefrom can take any desired form," quoting from page 125, lines 6-8. Likewise, at page 50, lines 22-25 of their specification, applicants teach:

> Because this precursor is flexible, it can be molded in any desired shape before it is hydrated for hardening, and thus it turns into a fiber-compounded reinforcing body taking the desired shape.

For example, at page 58, lines 2-13 of applicants' specification, it is taught that the flexible reinforcing material as defined by these claims may be "wound around the surface" before water is applied for hydrating the hydraulic inorganic component. As taught at page 57, lines 5-14 of applicants' specification, because the reinforcing material does not contain water, i.e., the

hydraulic inorganic powder has not been hydrated, it is lighter in weight as compared with any similar product wherein the hydraulic cement has been hardened and, therefore, is more easily transported to the site of use. In this connection, applicants contemplate wrapping their flexible reinforcing material in a moisture-proof material to avoid contact with water prior to arrival at the site of application. See page 22, lines 19-26.

In light of the foregoing, the rejection for obviousness over Japanese 62-226848 as applied to claims 75-80 is respectfully traversed. A full translation of Japanese 62-226848 is submitted herewith. The Japanese publication neither discloses nor suggests a dry, flexible product as defined by claims 75-80. It follows, that the product will not have good flexibility and "drape", allowing itself to be contoured to the shape of the application surface at the site of use. In the first embodiment disclosed in the Japanese publication, as revealed at the top of page 4 of the translation, reinforcing fibers are mixed with "a cement based paste containing a cement paste, mortar, acrylic emulsion." It is common knowledge that an "acrylic emulsion" is a water-based product, e.g., water-based acrylic paints. The "cement paste" also contains water, as taught by the reference. See page 2, lines 12-15 of the translation. There is no suggestion of a dry hydraulic inorganic powder adhered to the reinforcing fibers via an organic binder.

According to the examiner, "it would have been an obvious variation to premix the dry ingredients and subsequently add the resin." However, in the examiner's hypothetical the result would not be a dry hydraulic powder bound to the fiber surfaces through the resin, as claimed, because (1) the only resin used is an acrylic emulsion (water-based) and (2) the cement paste

contains water. Of course, the reference also teaches hydration, followed by drying, to obtain a hardened cement "cover layer." That product while "dry" does not contain an "unhardened and dry hydraulic inorganic powder" and is neither flexible nor capable of hardening upon contact with water as required by claim 75.

In the second embodiment of the Japanese publication, as described at pages 4 and 5 of the translation, reinforcing fibers are coated with a "very fine cement paste." Again, as taught at page 2, lines 12-15, the cement paste contains water. Further, in this embodiment, there is no resin and therefore no product wherein a dry hydraulic powder is bound to the reinforcing fiber through an organic binder.

In the third embodiment as described beginning at page 5 of the translation, the reinforcing fibers are dipped into "a resin-containing slurry viscous material" formed from an acrylic emulsion, etc. Thus, this third embodiment differs from the subject matter of applicants' claims 75-80 for the same reasons mentioned above in connection with the first embodiment.

The fourth embodiment uses an epoxy resin. In this fourth embodiment, instead of a "cement-based cover layer" the cover layer is the epoxy resin (page 6, line 4 of the translation). Please note that the "structural material" is that material which is reinforced by the fiber composite material, and is not the fiber composite material itself or a component thereof. See, for example, the last two lines at page 4 of the translation and claim 1 at page 1 of the translation. In this fourth embodiment, the composite material, used for reinforcing a "structural material",

contains no hydraulic inorganic powder.

Likewise, the fifth embodiment described beginning at page 6 of the translation is a fiber composite material which contains no "unhardened and dry hydraulic inorganic powder."

Claim 80 here further distinguishes the present invention from anything suggested by the Japanese publication because it would serve no useful purpose to package anything disclosed by the Japanese publication in a moisture-proof packaging material.

Claims 81-88

These claims cover the hardened products produced by adding water to the products of claims 75-80 to cause the hydraulic powder to hydrate and thereby produce a hardened structure. The hardened products defined by these claims have the dry hydraulic powder bound to the fibers through an organic binder and are subsequently hardened by hydration of the hydraulic inorganic powder. Thus, the continuous phase of the hardened composite would be the set hydraulic component and the organic binder would be a non-continuous phase. In contradistinction, in the first and third embodiments of the Japanese publication, the acrylic emulsion is intimately admixed with the other components prior to hardening so that the acrylic resin will be dispersed throughout, not restricted to presence as a fiber coating in accordance with the present invention.

Claims 89, 99 and 105-110

These claims define a method wherein the fiber compounded deposit reinforcing material is formed "in the absence of water." See the description "The Production Process Where Water is Absent" which begins at page 24, line 25 of applicants' specification. The Japanese publication neither discloses nor suggests forming any product containing a hydraulic inorganic material "in the absence of water."

Use of an organic solvent to form a solution of the organic binder is taught throughout applicants' specification, for example, at page 18, lines 22 and 27.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

Respectfully submitted,

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82. (Amended) A hardened [fiber-compounded hydraulic] reinforcing material as claimed in claim 81 wherein the content of said organic binder, as a volume percentage of the sum of (A), (B) and (C), is 0.1 -40%.

83. (Amended) A hardened [fiber-compounded hydraulic] reinforcing material as claimed in claim 81 wherein the reinforcing fiber is carbon fiber or carbonaceous fiber.

84. (Amended) A hardened [fiber-compounded hydraulic] reinforcing material as claimed in claim 81 wherein said reinforcing fiber is selected from the group consisting of strands, rovings, ropes, braids, unidirectional sheets, fabrics, nets, and unwoven fabrics and mats.

89. (Amended) A method for producing, in the absence of water, a fiber-compounded hydraulic reinforcing material comprising:

(1) dispersing a hydraulic inorganic powder in a solution of an organic binder in an organic solvent [solution];

(2) applying the organic binder solution containing the dispersed hydraulic inorganic powder to reinforcing fiber to bind the hydraulic inorganic powder to the surface of the reinforcing fiber and/or to impregnate the reinforcing fiber;

(3) drying the reinforcing fiber having a coating of the hydraulic inorganic powder;

(4) obtaining, as a product, a dry fiber-compounded hydraulic reinforcing material wherein the hydraulic inorganic powder is unhardened and is bound to the reinforcing fiber

through the organic binder, said product remaining flexible until contact with water and, upon contact with water, hardening by a hydration reaction.